Epidemiology Survey Results

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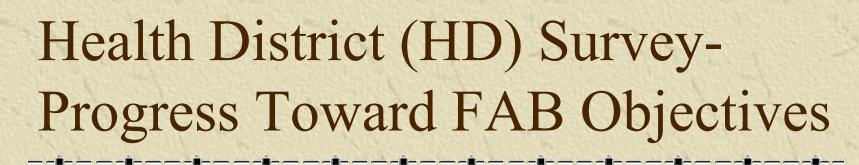


Topics of Presentation: Focus Area B Objectives

Survey of Health District's Progress Toward

Syndromic Surveillance Evaluation Survey

* Nosocomial Infection Surveillance Survey



- **CDC** Emergency Preparedness Grant
 - Focus Area B- Surveillance and Epidemiology Capacity
 - 9 critical capacities- multiple objectives
 - See web site: http://vdhweb/bt/FocusB.doc
 - Report on progress for the second quarter (Dec-Feb)
 - •30 (88%) out of 34 health districts responded

- ★ 28 (93%) HD have emergency notification procedures in place
 - 24 hr/on call/ECC service- 7 (23%)
 - On call cell/phone/pager- 11 (37%)
 - Contact info Distributed- 8 (27%)
 - Emergency Contact Tree 2 (7%)

- How emergency notification procedures are working
 - Excellent- 17 (57%)
 - Good- 12 (40%)
 - Fair- 1 (3%)
- Number of after hours calls received
 - Total- 362
 - Mean- 12
 - Median-

Number of HD notifying providers of after hours information

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    Physicians-
    27 (90%)
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Mean number of times providers notified per HD

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Physician-
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- *Other providers notified include
 - Nursing home/assisted living
 - Schools
 - Urgent Care
 - Police/Fire/EMS
 - Military
 - Veterinary
 - City Officials

Mechanisms used to notify providersnumber of HD

Personal visits-21 (70%)

Meetings- 18 (60%)

• Formal Pres- 10 (33%)

Posters/signs-7 (23%)

Mailings-18 (60%)

Disease/Surveillance Presentations

- **26** HD gave presentations on diseases/surveillance
- * 163 total presentations were given
- **Groups** to whom HD gave presentations:

• HD staff-	21	(70%)
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- Healthcare worker-15 (50%)
- Community- 12 (40%)
- College/Univ/School-10 (33%)
- * Other groups include:
 - Law, EMS, veteran's affairs, epi surveillance, day care, industrial hygienist, nursing home

Evaluation Component

* 13 HD (50%) had at least one presentation with an evaluation component

* 17 of 163 presentations (10.4%) had an evaluation component

Quarterly Reports for Providers

** 17 (65%) responding HD have developed a report

* 16 (94%) of these HD have published their report

Epidemiology Response Team (ERT)

- **29** (97%) HD have an ERT
- * 22 (76%) of these have had at least one ERT meeting
 - Total meetings 67
 - Mean per HD
- Number of teams with at least one of the following:
 - Epidemiologist 23 (79%)
 - Health Director 21 (72%)
 - Environmental Health 21 (72%)
 - Nurse 25 (86%)
 - Planner 16 (55%)



- Is there any way to improve emergency notification procedures in the districts?
- Which mechanisms are most effective for providing information to providers?
- * What methods are most effective for improving disease reporting?
- * Are the HAN notifications helpful sources of information about current events/diseases?
- Is there a need for more presentations/ communication with any part of the community?
- * Are expectations for the ERT being fulfilled?



Syndromic Surveillance Evaluation

- * Purpose
 - To gather data on ED syndromic surveillance activities- categorizations, alerts, follow-up

 To get feedback from participants on the syndromic surveillance process



- HD reviewed emergency department chief complaint logs for specified hospitals
- Grouped chief complaints into syndrome categories
 - Death
 - Sepsis
 - Rash
 - Respiratory
 - Other

- •GI Illness
- Unspecified Infection
- Neurological
- Total

Used CuSum technique to identify unusual patterns (flags)

Followed-up on flags

**** 13** HD recorded daily syndromic surveillance activities from 08/17/2003-10/10/2003

Flags detected

36)
	36

- Sepsis 57
- Respiratory 63
- GI Illness 33
- Unspecified Ill 22

- Neurological40
- Rash 39
- Other 52
- Total ED Census 16

- **✷** Total flags 358
- * Average/day 6.6
- * Avg/day/HD 0.5

Comparison of flags between regions

Region	# of Districts	Total Flags	Average per day*
Northern	5	212	3.9
Eastern	8	146	2.7

^{*} t= 1.5, p= 0.137

- Follow-up conducted
 - Reviewed logs 229
 - Contacted ED 67
 - Contacted ICP 31
 - Contacted lab
 - Elec rec review 27

- Elec lab review 26
- In-person review 20
- Contacted patient
- ◆ To regional Epi
- Requested labs
- Epi investigation

Resource Demands

- * Administrative time (minutes/log)
 - Average- 18 (range: 0-150)

- Coding time (minutes/log)
 - Average- 17 (range: 1-90)
- Follow-up time of flags (minutes/flag)
 - Average- 14.9 (range: 1-90)

Identification of "Unusual Activity"

* Hurricane Isabel (3 days, 6 flags, 2 districts)

Cluster of viral meningitis in a community (1 day, 2 flags, 1 district)

* Other activity (MVA, AMS, sepsis, URI)

Outbreak/Cluster Detection

	Regular Surveillance	Syndromic Surveillance
Northern Region	No outbreaks/clusters	No flags
Eastern Region	Viral Meningitis	Neurological flag



- Some HD conducted follow-up of chief complaints although no flags were raised
 - Total times conducted- 60
 - Average time spent on follow-up- 7.3 minutes
 - ◆Minimum- 0
 - Maximum-300



- Type of non-flag follow-up conducted
 - Record/lab review
 - Contacted ED/ICP
- Chief complaint/ diagnoses of cases followed up
 - Bites, Sepsis, MVAs, 30 yr old unresponsive, food poisoning
 - Hepatitis A, MRSA, meningitis, TB, rabies, TSS, poison oak/ivy, chickenpox, pneumonia

Feedback on Process

** Focus groups conducted - 22 specific questions about the syndromic surveillance process, problems, and benefits



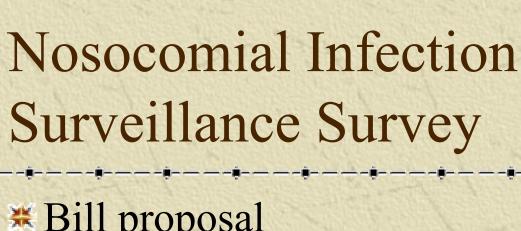
- ** Strengthened relationship with ICPs, local hospitals, emergency departments
- ** Facilitated detection of reportable diseasesmeningitis, dog bites, SARS
- ** Increased knowledge of medical terminology, awareness of diseases in community- facilitated information gathering during hurricane



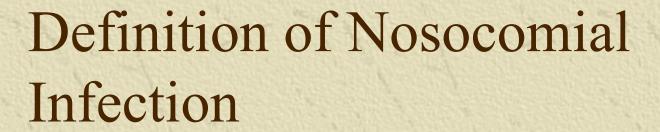
- * Evaluating need for follow-up depends on experience, astute clinician
- Respiratory, GI Illness take most follow-up time
- *4 districts say will be useful, 4 say may not be useful
- Workload demands during outbreaks and weekends should be addressed



- * How did the hurricane confound the data process?
- * How will syndromic surveillance change through automation?
 - Discovery of incidences not categorized into syndromes
 - Relationship with providers
 - Surveillance during emergencies
 - Problems encountered during manual surveillance
 - Identifying unusual activity
- Future evaluation plans



- * Bill proposal
 - HB 310 Nosocomial Infections; release of information.
 - Proposed on 01/14/04- Defeated
 - To provide for the surveillance of hospital specific nosocomial infection incidences in order "to protect the interests of VA consumers"



- * "any [illness or] group of illnesses of common etiology occurring in a [patient or] group of patients in a medical care facility acquired by exposure of those patients to the disease agent while confined in such a facility"*
- *An infection that was not present or incubating at the time of admission (CDC)
- * Regulations for Disease Reporting and Control, Commonwealth of Virginia, State Board of Health, Jan 1999



Question

- * What can the Virginia Department of Health do?
 - Research current legislation in other states
 - Review current standards, regulations, and recommendations
 - Survey hospitals to determine current practices
 - Make recommendations

Nosocomial Infection Survey

*A 14 part questionnaire sent to 94 hospitals throughout the state

* 73 (78%) hospitals responded

Methods of Surveillance

Concurrent (95.5%) vs. Retrospective (87.7%)

- **Scope of Surveillance:**
 - Targeted- 53.4% (39 hospitals)
 - Whole House- 46.6% (34 hospitals)



- * 79.5% of all hospitals conduct surveillance continuously vs. episodic
- * 95.9% use microbiology and clinical data to detect infections (vs. microbiology only)
- * Case definitions used to define infection
 - ◆CDC- 80.8%,
 - CDC/hospital modified-16.4%

Infections for which Hospitals Conduct Surveillance

- Bloodstream Inf. (90.4%)
 - Primary 23 (31.5%)
 - Secondary 2 (2.7%)
 - Both 41 (56.2%)
- Surgical Site Inf. (100%)
 - All 37(50.7%)
 - Selected 36 (49.3%)

- 55 (75.3%) • UTI
- ◆ Pneumonia (95.9%)
 - Medical 7 (9.6%)
 - Vent 28 (38.4%)
 - Both 35 (47.9%)

Emerging Infections/Organisms monitored by Hospitals Organism (% of hospitals) •MRSA- 76.7% •VRE- 65.8% •ESBL-gram negative rods- 31.5%

• Resistant *Pseudomonas aeruginosa-* 30.1%

Populations Surveyed

- ★ Populations surveyed among hospitals conducting targeted surveillance (n=39)
 - Pts in intensive care

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- With central lines 82.1%
- With specific organisms 53.8%
- Pts in the general ward
 - With specific organisms 66.7%
- Pts having surgical procedures

• All procedures	25.6%
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- Specific procedures 69.2%
- Specific organisms 2.6%

Calculating Rates

- * Denominators used to calculate rates:
 - Patient Days- 61.6%
 - Device Days- 61.6%
 - Admissions- 13.7%
 - Discharges- 17.8%

The Question

***Can surveillance methods be standardized for meaningful comparison by the public?**



- * What methodologies should be used for identifying, collecting, analyzing and reporting infections?
- * What specific infections rates should be reported?
- * How should rates and risks be adjusted? By whom?
- * How often should rates be reported to the health department and to the consumer?
- * What benchmarks should be used?



- * What will public health do with the information?
- What actions should public health take if an increase is detected? Who will monitor the rates and actions?
- How will the rates be made available to the public? Where should they be published?
- * Who will educate the hospitals and consumers?
- * How will this impact staffing?

Questions

- * Should the rates be reported to another agency and not to the health department? (VHHA)
- Should the reporting of rates by hospitals be voluntary?